

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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PCT

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing
(day/month/year)

12 NOV 2002

Applicant's or agent's file reference SURFP001.P		IMPORTANT NOTIFICATION	
International application No. PCT/US00/15841	International filing date (day/month/year) 07 June 2000 (07.06.2000)	Priority date (day/month/year) 05 November 1999 (05.11.1999)	
<p>Applicant LIGHTSURF</p>			

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US
Commissioner of Patents and Trademarks
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Washington, D.C. 20231
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Form PCT/IPEA/416 (July 1992)

J. J. Wu
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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SURFP001.P	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/15841	International filing date (<i>day/month/year</i>) 07 June 2000 (07.06.2000)	Priority date (<i>day/month/year</i>) 08 November 1999 (05.11.1999)
International Patent Classification (IPC) or national classification and IPC IPC(7): G06K 9/00, 9/40 and US CI.: 348/233, 250, 375; 382/167, 245, 246, 249		
Applicant LIGHTSURF		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

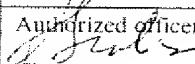
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 20 sheets.

3. This report contains indications relating to the following items:

- I Basis of the report
- II Priority
- III Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 05 January 2001 (05.01.2001)	Date of completion of this report 05 August 2002 (05.08.2002)
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer  Jingge Wu Telephone No. (703) 305-8576

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/15841

I. Basis of the report

1. With regard to the elements of the international application:*

the international application as originally filed.

the description:
pages 2, 4-5, 10, 12, 16-17, 22, 26 and 30-33 as originally filed
pages 1, 3, 6-9, 11, 13-15, 18-21, 23-25, 27-29, filed with the demand
pages none, filed with the letter of _____

the claims:
pages 35-43, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages NONE, filed with the letter of _____

the drawings:
pages 1-11, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____

the sequence listing part of the description:
pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

the language of publication of the international application (under Rule 48.3(b)).

the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

contained in the international application in printed form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. The amendments have resulted in the cancellation of

the description, pages NONE

the claims, Nos. NONE

the drawings, sheets/fig NONE

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US00/15841

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-68</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-68</u>	NO
Industrial Applicability (IA)	Claims <u>NONE</u>	YES
	Claims <u>1-68</u>	NO

2. CITATIONS AND EXPLANATIONS

Please See Continuation Sheet

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US00/15841'

Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

V. 2. Citations and Explanations:

Claims 1, 3-14, 18-21, 23-34, 38-41, 43-54, 58-62, and 64-68 lack inventive steps under PCT Article 33(3) as being obvious over Claims 1, 3-14, 18-21, 23-34, 38-41, 43-54, 58-62, and 64-68 lack inventive steps under PCT Article 33(3) as being obvious over US 5848193 to Garcia in view of US 5818525 to Elabd.

As to claim 1, Garcia discloses a method for distributed digital image processing, the method comprising:

recording luminosity information at a first device (digital camera), for representing an image that has been digitally captured at the first place (Fig. 1 element 22);

generating luminosity information at the first device by applying a wavelet transform (Fig. 1 element 22), quantization (col. 14 line 32) to the luminosity information (col. 3 lines 17-65);

Garcia does not explicitly mention compression.

Elabd, in an analogous environment, discloses generating compressed luminosity information by applying wavelet transform, quantization, and compression (Fig. 7, abstract, col. 4 lines 15-col. 5 line 49);

transmitting said compressed luminosity information to a second device (storage or display) (Fig. 7 and 9);
restoring said luminosity information from said compressed luminosity information at the second device (Figs. 7 and 9, col. 6 lines 10-31); and

converting said luminosity information at the second device into a color image (Fig. 9, col. 6 lines 10-32).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the compression scheme in the method of Garcia in order to process color images and speed up data transmission.

As to claim 3, Garcia further discloses light-level (intensity) information for representing an image that has been digitally captured at the first device (col. 3 lines 17-20).

As to claims 4-6, the combination of Garcia and Elabd does not explicitly mention binary, run-length, and Huffman encoding.

However, the Examiner alleges that binary, run-length, and Huffman encoding are notoriously well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the compression scheme in the method of Garcia in order to process color images and speed up data transmission.

As to claim 7, Elabd further discloses reversing said compression that occurred at the first device (col. 6 lines 10-67).

As to claim 8, Elabd further discloses wire-based transmission (Fig. 9).

As to claim 9, Elabd further discloses serial communication port (Fig. 9).

As to claim 10-14, Elabd further discloses interpolating color information for the image (Fig. 7), RGB color conversion (Fig. 7, note YUV is inherent conversion from RGB color space), and JPEG compression (col. 4 lines 15-67).

As to claim 18-20, the combination of Garcia and Elabd does not mention transmitting a lower quality representation of the image captured in first place and converting into a higher quality image at second device.

However, the Examiner alleges that transmitting lower quality such as lower resolution image in the network and converting the lower quality image into higher quality image such full resolution image at one terminal are notoriously well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the converting scheme in the method of Garcia in order to process color images and speed up data transmission.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US00/15841*

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

As to claims 21, 23-34, the discussion is addressed with regard to claim 1 and claim 3-14.

As to claims 38-40, the discussion is addressed with regard to claims 18-20.

As to claims 41, 43-54, the claims are corresponding system claims to 1, 3-14. the discussion is addressed with regard to claims 1, 3-14.

As to claims 58-60, the claims are corresponding system claims to 18-20. the discussion is addressed with regard to claims 18-20.

As to claims 61-62, Garcia further discloses a digital camera and a computer (Fig. 1).

As to claim 64, the Examiner believes that CMOS image sensor is notoriously well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the sensor in the method of Garcia in order to process color images.

As to claim 65, Elabd further discloses CCD image sensor (abstract).

As to claim 66, Elabd further discloses processing gray level information (col. 4 lines 23-25).

As to claim 67, Garcia further discloses a wavelet transform engine to compress (Fig. 1).

As to claim 68, Elabd further discloses compressed luminosity information (Fig. 7).

Claims 15, 17, 37, and 57 lack inventive steps under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of US 5913088 to Moghadam et al. ("Moghadam").

As to claims 15 and 17, the combination of Garcia and Elabd does not mention packet-based communication and Internet.

Moghadam, in an analogous environment, discloses a camera (first device) connected to Internet (which uses packet-based communication) (Fig. 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the wireless communication scheme of Moghadam1 in the method of Garcia in order to increase the productivity of photographing and reduce the memory of the camera.

As to claim 37, the discussion is addressed with regard to claim 15.

As to claim 57, the claim is corresponding system claim to 15. the discussion is addressed with regard to claim 15.

Claims 2, 16, 22, 35-36, 42, 55-56, and 63 lack inventive steps under PCT Article 33(3) as being obvious over the combination of Garcia and Elabd and further in view of US 5917542 to Moghadam et al ("Moghadam1").

As to claims 2, and 16, the combination of Garcia and Elabd does not mention wireless transmission.

Moghadam1, in an analogous environment, discloses wireless communication link via cellular phone network between a digital camera and an image server (Fig. 1, col. 1, lines 12-64, col. 2, lines 30-50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the wireless communication scheme of Moghadam1 in the method of Garcia in order to increase the productivity of photographing and reduce the memory of the camera.

As to claims 22, 35-36, the discussion is addressed with regard to claim 2, 15-16.

As to claims 42, 55-56, the claims are corresponding system claims to 2, 15-16. The discussion is addressed with regard to claims 2, 15-16.

As to claim 63, Moghadam1 further discloses a server computer (col. 2 lines 30-50).

----- NEW CITATIONS -----

US 5,848,193 A (GARCIA) 08 December 1998.

US 5,815,525 A (ELABD) 06 October 1998.

US 5,917,542 A (MOGHADAM et al) 29 June 1999.

US 5,913,088 A (MOGHADAM et al) 15 June 1999.